Monitoring Data Record

Project Title: B-3157 (Michael's Branch Site) COE Action ID: 200020843
WQC Number: 3467
Stream Name: Michael's Branch
City, County and other Location Information: Davidson County, Bridge #74 & #76 over SR 1242 and Michael's Branch and approaches on US 29/64/70 & I-85 Business.
Date Construction Completed: 9/5/07 Monitoring Year: (5) of 5
Ecoregion: 8 digit HUC unit 03040103
USGS Quad Name and Coordinates:
Rosgen Classification:
Length of Project: 876' Urban or Rural: Urban Watershed Size:
Monitoring DATA collected by: M. Green and J. Young Date: 1/11/12
Applicant Information:
Name: NCDOT Roadside Environmental Unit
Address: 1425 Rock Quarry Road Raleigh, NC 27610
Telephone Number: (919) 861-3772 Email address: mlgreen@ncdot.gov
Consultant Information:
Name:
Address:
Telephone Number: Email address:
Project Status: Complete

Monitoring Level required by COE and DWQ (404 permit/ 401 Cert.): Level **1** ~~2~~ ~~3~~
Monitoring Level 1 requires completion of *Section 1, Section 2 and Section 3*

Permit States: The permittee shall perform the following components of Level I monitoring each year for the 5-year monitoring period: Reference photos; plant survival (i.e., identify specific problem areas (missing, stressed, damaged or dead plantings), estimated causes, and proposed/required remedial action); visual inspection of channel stability. Physical measurements of channel stability/morphology will not be required. The permittee shall submit the monitoring reports to the Corps of Engineers, Raleigh Regulatory Field Office Project Manager, within sixty days after completing the monitoring. If less than two bankfull events occur during the first 5 years, the permittee shall continue monitoring until the second bankfull event is documented. The bankfull events must occur during separate monitoring years. In the event that the required bankfull events do not occur during the five-year monitoring period, the Corps of Engineers, in consultation with the resource agencies, may determine that further monitoring is not required. It is suggested that all bankfull occurrences be monitored and reported through the required monitoring period. The permittee shall perform and submit photo documentation twice each year (summer and winter) for the 5-year monitoring period, and for any subsequently required monitoring period.

Section 1. PHOTO REFERENCE SITES
(Monitoring at all levels must complete this section)

Total number of reference photo locations at this site:
10 photos were taken from 5 photo point locations
Dates reference photos have been taken at this site: 1/23/08, 8/15/08, 3/12/09, 8/10/09, 3/1/10, 9/17/10, 2/9/11, 6/28/11, 1/11/12
Individual from whom additional photos can be obtained (name, address, phone):

Other Information relative to site photo reference: A site map with photo point locations is included with this report.

Section 2. PLANT SURVIVAL
Attach plan sheet indicating reference photos.

Identify specific problem areas (missing, stressed, damaged or dead plantings):
Some beaver activity was noted onsite which included tree damage, active slides, and old dams.

Estimated causes, and proposed/required remedial action: USDA has been contacted to remove the beavers from the site.

ADDITIONAL COMMENTS: Planted vegetation is surviving along the streambank and within the buffer area. Streambank reforestation included black willow, tag alder, water oak, sycamore, yellow poplar, willow oak, river birch, and green ash. Other vegetation noted: red maple, sweetgum, briars, multiflora rose, lespedeza, fennel, silky dogwood, jewel weed, soft rush, sumac, alder buckhorn, and various grasses. The buffer downstream of Photo Point #3, on the left side was replanted on 2/17/11 due to mowing. Additional markers were installed between the sewer easement and the planted buffer.

If required to complete Level 1 and Level 2 monitoring only stop here; otherwise, complete section 3.

Section 3. CHANNEL STABILITY

Visual Inspection: The entire stream project as well as each in-stream structure and bank stabilization/revetment structure must be evaluated and problems addressed.

Report on the visual inspection of channel stability. Physical measurements of channel stability/morphology will not be required. Include a discussion of any deviations from as-built and an evaluation of the significance of these deviations and whether they are indicative of a stabilizing or destabilizing situation.

Michael's Branch is stabilized for the Year 5 Winter evaluation, except for, the areas noted below. NCDOT live staked the eroded areas in March 2010 to help stabilize these areas. There was little or no change in these areas since the last evaluation. The crossvanes at Sta. 0+50 and 1+00 inside Ramp C had water flowing over top of these crossvanes during the monitoring evaluation. A bankfull event had recently occurred onsite. A site visit was conducted on May 5, 2011 with the regulatory agencies and NCDOT personnel present. NCDOT will continue to monitor channel stability at the Michael's Branch site.

Date 1/11/12	STA. 15+30 –Y2- (Additional Photo)	STA. 0+50 -Ramp C- (Additional Photo b/t PP#3 and PP#4)	STA. 1+00 -Ramp C- (Additional Photo b/t PP#3 and PP#4)	Station Number	Station Number
Structure Type	Crossvane	Crossvane	Crossvane		
Is water piping through or around structure?		Water flowing over top of crossvane	Water flowing over top of crossvane		
Head cut or down cut present?					
Bank or scour erosion present?	Erosion on left bank at the end of the crossvane arm	Erosion on right bank behind right crossvane arm			
Other problems noted?					

Section 4. DEBIT LEDGER

The entire Michael's Branch stream mitigation site was used for the B-3157 project to compensate for unavoidable stream impacts.

Michael's Branch

Photo Point #1 (Upstream)

Photo Point #1 (Downstream)

Photo Point #2 (Upstream)

Photo Point #2 (Downstream)

Photo Point #3 (Upstream)

Photo Point #3 (Downstream)

Year 5 Winter – January 2012

Michael's Branch

Photo Point #4 (Upstream)

Photo Point #4 (Downstream)

Photo Point #5 (Upstream)

Photo Point #5 (Downstream)

STA. 15+30 –Y2 – Erosion on left bank at the end of the crossvane arm located upstream of PP#1

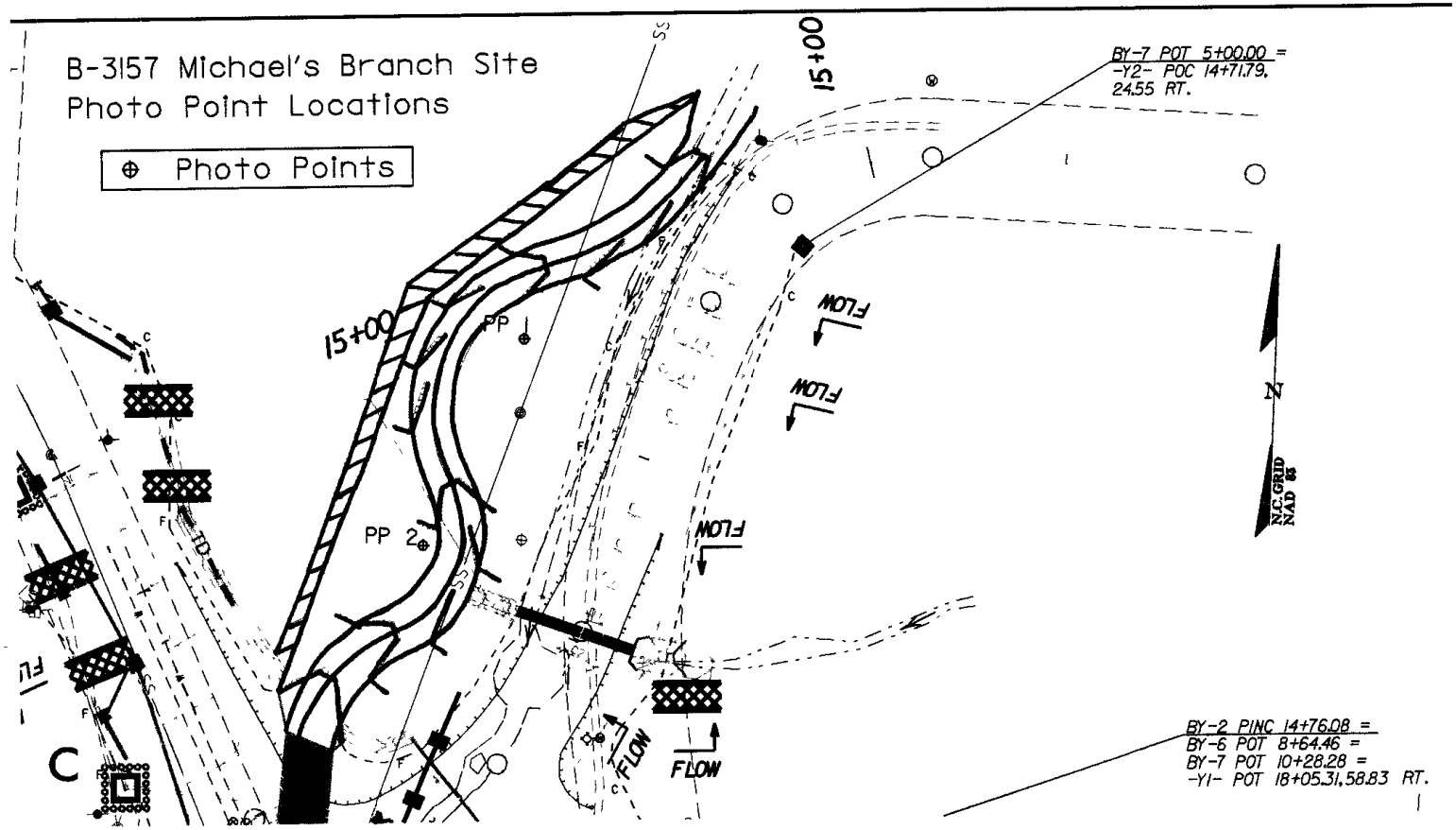
Sta. 0+50 –Ramp C- Erosion behind right arm and water flowing over top of crossvane located b/t PP#3 and PP#4

Year 5 Winter – January 2012

Michael's Branch

Sta. 1+00 –Ramp C- Water flowing over top of crossvane

Year 5 Winter – January 2012


B-3157 Michael's Branch Site
Photo Point Locations
⊕ Photo Points
15+00
15+00
PP
PP 2
FLOW
FLOW
FLOW
FLOW
FLOW
N
N.C. GRID
NAD 83
BY-7 POT 5+00.00 =
-Y2- POC 14+71.79,
24.55 RT.
BY-2 PINC 14+76.08 =
BY-6 POT 8+64.46 =
BY-7 POT 10+28.28 =
-Y1- POT 18+05.31, 58.83 RT.

B-3157 Michael's Branch Site
Photo Point Locations